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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,154	12/31/2003	David Siever	49425	6977

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CANADA

EXAMINER

BUSTAMANTE, ERIK J

ART UNIT	PAPER NUMBER
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3766

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/748,154

Applicant(s)

SIEVER, DAVID

Examiner

Erik J. Bustamante

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Acknowledgement is made of the applicant's reply received on 1/4/07, by this amendment, claim 15 is amended, claim 13 is cancelled, 1-12, and 14-16 are pending.

Drawings

2. In light of the applicant's newly submitted drawings, the objection(s) made against the drawings in the previous Office Action are withdrawn.

Claim Rejections - 35 USC § 112

3. In light of the applicant's response, all rejections under **35 USC § 112** are withdrawn.

Double Patenting

4. In light of the applicant's response, all rejections under **the statutory basis for double patenting** are withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 14 is rejected under 35 U.S.C. 102(b) as anticipated by SIEVER (5,709,645).

Regarding claim 14, SIEVER discloses photic stimulation process comprising (Col 6 lines 20-24): (a) stimulating alpha frequencies in a range of from 8 to 12Hz in the right brain hemisphere (Table 1 & Col 5 lines 11-16) and (b) stimulating

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beta frequencies in a range of from 15 to 20 Hz in the left brain hemisphere
(Table 1 & Col 5 lines 11-16) for relieving symptoms of depression.

6. Claims 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by
TIMMERMAN et al ("Effects of 20-min audio-visual stimulation (AVS) at dominant alpha
frequency and twice dominant alpha frequency on the cortical EEG"; International
Journal of Psychophysiology Volume 32, Issue 1 , 1 April 1999, Pages 55-61).

Regarding claim 6, TIMMERMAN discloses a process comprising: (a) obtaining a
frequency of brain waves in a brain (page 3 last paragraph); and (b) stimulating
the brain at the twice measured frequency (page 4 first paragraph).

Regarding claim 7, TIMMERMAN discloses a process according to claim 6
wherein the frequency of stimulation in step (b) is in the range of 16-24 Hz based
on the aberrant brain wave frequency in the brain being in the range of 8-12 Hz
(page 6). The examiner takes the position that since the ranges disclosed by
TIMMERMAN encompass the values claimed there would be sufficient specificity
for the ranges to anticipate the applicant's values for stimulation. See MPEP
2131.03

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over CHUPRIKOV et al (5,137,018) in view of YOON (6,875,167 B2).

Regarding claim 1, CHUPRIKOV discloses a method of stimulating the left hemisphere of the brain and the right hemisphere of the brain by exposing the right halves of both eyes of a patient to light at one wavelength of light and exposing the left halves of both eyes to light at a different wavelength (Col 5 lines 1-34 & Col 14 lines 40-57). CHUPRIKOV also discloses that before that step that the both halves of each eye are exposed to a different wavelength (Col 5 lines 36-56 & Col 12 lines 48-55). Finally CHUPRIKOV shows that the steps can be repeated (Claim 1 (e)). CHUPRIKOV discloses also that the left hemisphere is stimulated when the right visual fields are stimulated and that the right hemisphere is stimulated when the left visual fields are stimulated (Col 12 lines 6-11). CHUPRIKOV does not disclose though that the left and right hemispheres are stimulated at the frequencies mentioned by the applicant, CHUPRIKOV only states the wavelength at which the stimulus light is set.

YOON teaches that brain wave frequencies of human brains tend to equilibrate around the same frequency of an external stimulus by the frequency following response (Col 1 lines 38-48). Implicit in this definition is that if one were to expose a stimulus light of beta, low beta, and alpha frequencies to a subject that the brain would be stimulated at approximately the same frequency. The frequencies claimed by the applicant are well known in the art to correspond to the

various brain wave frequencies, and it would be obvious to one of ordinary skill in the art at the time the invention was made to use those frequencies to provoke the corresponding brain wave.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used stimulus light with beta, low beta, and alpha frequencies in the process of CHUPRIKOV instead of the wavelengths stated by CHUPRIKOV, in light of the teachings of YOON, to stimulate the left and right hemispheres at a beta, low beta, or alpha frequency.

Regarding claim 2, CHUPRIKOV implies in his disclosure that the period of time for the first stimulation portion is equal to the period for the second stimulation portion of the process (Col 5 lines 31-34 & lines 57-60).

Regarding claim 3, CHUPRIKOV discloses that the period of time in which the light stimulation is given to a patient should be in the range of time of 2-10 minutes (Col 2 lines 20-21 & Col 11 lines 22-23).

With respect to claim 4 & 5, CHUPRIKOV discloses the claimed invention except that the shifts between the first stimulation portion and the second stimulation portion should be sudden and take 30 seconds or be ramped in .1 Hz increments and take at least three minutes. It would have been obvious to one having

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ordinary skill in the art at the time the invention was made to have the shift between the first and second stimulation portions be either sudden and take 30 seconds or be ramped in .1 Hz increments and take at least three minutes, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over TIMMERMAN et al as applied to claim 6 above.

With respect to claim 8, TIMMERMAN discloses the claimed invention except for the specific values of stimulating frequency, and the corresponding brain wave frequency. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the specific values of stimulating frequency, and the corresponding brain wave frequency, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

9. Claims 9-12 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over GORGES.

Regarding claim 9, GORGES shows a process for dissociating a subject from self awareness comprising: (a) stimulating a left brain hemisphere at a first

frequency using photic stimulation and (b) simultaneously stimulating a right brain hemisphere at a second frequency using photic stimulation (Col 2 lines 26-32), wherein the first frequency differs from the second frequency by between approximately 0.1Hz and 3 Hz (Col 2 lines 40-46). While, GORGES does not implicitly state that the left and right hemispheres need to be stimulated at different frequencies, the examiner takes the position that it would be obvious to one of ordinary skill in the art at the time the invention was made that the left and right hemisphere can be stimulated at that frequency.

Regarding claim 10, GORGES shows a process according to claim 9, wherein the process is alternated with stimulating the left brain hemisphere and the right brain hemisphere at a low beta frequency in a range of from 1-30 Hz (Col 2 lines 40-46).

Regarding claim 11, GORGES shows a process according to claim 9, wherein the process is alternated with stimulating the left brain hemisphere and the right brain hemisphere at low-alpha or theta frequencies in a range of from 1-30 Hz. (Col 2 lines 40-46).

Regarding claim 12, GORGES shows a process according to claim 9, wherein the process is alternated with stimulating the left brain hemisphere and the right

brain hemisphere at a delta frequency in a range of from 1-30 Hz (Col 2 lines 40-46 & Col 7 lines 13-16).

Since there is overlap of the ranges in the claims above with the range of GORGES, a prima facie case of obviousness does exist.

In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976) see MPEP 2144.05

Regarding claim 15, GORGES discloses a photic and auditory stimulation method for pacing breathing in a subject to a predetermined breathing rate in the range of from 5 to 7 breath cycles per minute, the process comprising: (a) exposing the subject to an auditory cue (Col 2 Lines 24-25); and (b) simultaneously exposing the subject to various stimulation frequencies or combinations of frequencies (Col 2 lines 40-46). While GORGES does not specifically state that the method is used for pacing breathing, GORGES discloses that the method is used to relax a patient, which would imply an alteration into the breathing rate of an individual. Furthermore, GORGES states that various areas of the brain can be stimulated with the disclosed process (Col 7 lines 31-32). One of ordinary skill in the art would recognize that using the aforementioned process one could stimulate the medulla oblongata, the portion of the brain that controls breathing rate, which has been established by scientific

research, at a rate that would stimulate a breathing rate of 5-7 cycles per minute by routine trial and error.

Regarding claim 16, GORGES discloses a method according to claim 15 wherein the auditory cue is a synthesized heart beat sound (Col 3 lines 3-7).

Regarding claim 17, GORGES discloses a method according to claim 15, wherein the auditory cue is can be provided at from two to four times the predetermined breathing rate (Col 3 lines 3-7).

Response to Arguments

10. Applicant's arguments filed on 1/4/07 against the SIEVER reference have been fully considered but they are not persuasive. The applicant has argued that the SIEVER reference does not disclose the goals achieved by the applicant's current invention. The examiner respectfully submits that unexpected results cannot overcome a 102 rejection.

"Evidence of secondary considerations, such as unexpected results or commercial success, is irrelevant to 35 U.S.C. 102 rejections and thus cannot overcome a rejection." MPEP 2131.04

11. Applicant's arguments against the 103 of CHUPRIKOV in view of YOON have been fully considered but they are not persuasive.

The applicant has argued that 103 rejection does not render claim 1 as obvious for the following reasons:

- CHUPRIKOV is not analogous art to the current invention
- The ranges disclosed are not present in the combination.

The examiner respectfully disagrees with the assertion that CHUPRIKOV has nothing to do with the presented methods. CHUPRIKOV states

"Further object of the invention is to enlarge the field of application of the method for treating the emotional condition of an individual, namely, to allow its use for the treatment of affective disorders in patients with alcoholism, schizophrenia, borderline neuropsychic psychosomatic disorders."

(Col 4 lines 56-64)

"One of the objects of the invention is to provide an apparatus for treating the emotional condition of an individual"

(Col 4 lines 65-67).

Therefore it would appear that the invention of CHUPRIKOV would be extremely analogous and used for the same purposes as the applicants invention.

In regards to the disclosure of the ranges of frequencies used, the 103 rejection has been rewritten to address this point.

12. Applicant's arguments which have not been specifically addressed have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erik J. Bustamante whose telephone number is 571-272-8820. The examiner can normally be reached on Mon-Fri (7:30 - 11:30 AM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl H. Layno can be reached on 571-272-4949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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